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Slichter, Charles Sumner

The new philosophy

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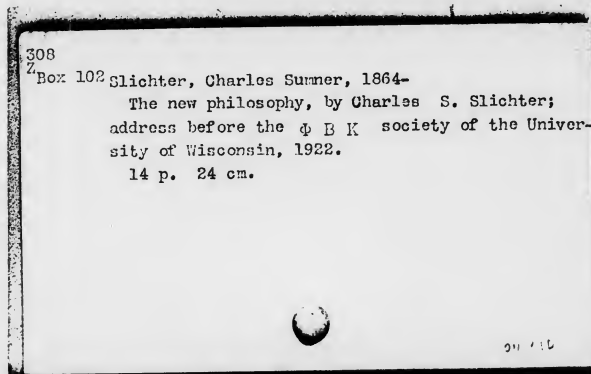
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THE NEW PHILOSOPHY

BY CHARLES S. SLICHTER

Address before the $\Phi \text{ B } \text{K}$ SOCIETY of the University of Wisconsin, 1922

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THE NEW PHILOSOPHY

PHI BETA KAPPA is a philosophical society. The easiest way to prove this, however, is by the interpretation of the symbols "S.P." (Societas Philosophiae) on the reverse of the badge rather than by the interrogation of the individual members. The confession of faith, as you have heard this evening, is the motto "Philosophy the Guide of Life." The society was born in 1776 when it was quite the fashion to think in terms of such universals as freedom, equality, and inalienable rights; and when it was the habit to dream of a quite perfect world, perhaps very near at hand, where a new and good philosophy would guide us. I do not intend to give too much credit to the college lads of William and Mary of one hundred and fifty years ago. The motto was easy to adopt because it probably meant to them that the set of current principles then actually guiding men in the conduct of life, did, as a matter of fact, constitute the true faith worthy of all men to be believed. This is generally what we intend when we adopt high sounding principles. We mean that the actually prevailing philosophy here and now agreeable to us and accepted by us is a proper guide of life. The college boys of '76 did not intend by their motto to invoke allegiance to an unrealized principle, to a principle of life not yet attained, which had to be fought for at great risk. They did not mean to challenge conventional truth or to align themselves with the promoters of the latest fads in philosophy. The motto of the society, then as now, was capable of a gloriously elastic interpretation. Each generation may interpret it as it pleases; in fact, each individual writer of a Phi Beta Kappa address may give it a meaning quite different from that adopted by any other writer. Fortunately our motto can be the text of an infinite number of sermons.

One of my purposes this evening will be to recall to you the story of the development of the New Learning or the Experimental Philosophy, as it is called, which took its hold on the world about three centuries ago. I shall attempt to picture especially its development in England, for then I can clothe the figures with familiar garments and can illuminate the story with contemporary gossip more or less familiar to all of you. The second purpose of my address will be to appraise the new philosophy and to attempt to pronounce upon it an appropriate verdict, and, finally, to accompany it with as much moralizing as I think the present company will stand.

The contrast between a conventional philosophy and a new or expectant philosophy is always carefully regarded by each successive

generation. But the new philosophy of one generation may, of course, become the old philosophy of a later generation. Sometimes the world settles down quite content for a long period, studying and disputing in its conventional philosophies until a champion of new thought appears and suddenly breaks up the disputations of the schoolmen. Occasionally this gathers the force of a revolution and a new epoch in human affairs comes into existence. Thus in England in the 16th century the Old Learning was resting in quiet content in the Universities of Oxford and Cambridge. Aristotle and the seven philosophies seemed so safe and so fixed and unchangeable in their human relations, that Thomas Gresham in founding his college in London provided that there should be seven professors, one for each of the seven philosophies, and that each professor should lecture once a week, thus providing one lecture a day for each of the seven days of the week. Thomas Gresham was a merchant and financier, belonging to a family of merchants very prominent in English life. He had served Elizabeth his queen and her government in many important fiscal and economic missions. He was founder of the Royal Exchange and was known as a hardheaded and practical man of extraordinary ability and judgment. Yet this man evidently believed that there was no more likelihood of a new philosophy coming forward than there was probability of the number of the days in the week being increased from seven to eight. Gresham had evidently long contemplated the founding and endowing of a college, for the enormous mansion which he built for himself on Bishopsgate Street, a few squares north of the Royal Exchange, was particularly adapted for college use. The building extended entirely around an open court measuring 140 by 200 feet. The large section of the edifice on Bishopsgate Street had a frontage of 200 feet; it contained a great hall 20 by 37 feet and 30 feet high, and two other rooms of practically the same size. Gresham had some very original ideas. It was provided that the professors were to be bachelors and they were to have apartments in the college. It was also ordained "for comeliness sake that the lecturers should read their lectures in their hoods, according to their degrees in the universities," and that each lecture should be delivered twice, at 8 o'clock in the morning in Latin and at 2 o'clock in the afternoon in English. The Latin lecture was appointed because it was thought "very likely that diverse strangers of foreign countries, who resort to Gresham College and understand not the English tongue, will greatly desire to hear the reading of said lectures, whereby the memory of said founder in erecting of the said college for encrease of learning may be divulged to the good example of foreign nations, and the honour and credit of this honourable city." The allotment of the days among the seven philosophies was changed from time to time. One of the early arrangements was as follows:

Sunday	allotted to Divinity
Monday	" Physic (Medicine)
Tuesday	" Law
Wednesday	" Astronomy
Thursday	" Geometry
Friday	" Rhetoric
Saturday	" Music

When I was admitted to $\Phi B K$ and the symbols upon the key were explained to me, I was told that the hand at the bottom of the shield was pointing to the seven stars, emphasizing seven, the sacred number, and that the seven stars were the seven philosophies, which should guide the neophyte in $\Phi B K$ to perfection. I now understand that a $\Phi B K$ antiquarian has spoiled all this symbolism. I have little respect for historians—they are always spoiling good stories; they worship dull facts and seem to have a small opinion of the romance that interests the most of us.

While Thomas Gresham in 1573 was planning for the propagation and glorification of the seven philosophies, a young freshman named Francis Bacon had entered Trinity College, Cambridge. He was a relative of Gresham by marriage, Gresham having married a first cousin of Bacon. He applied himself diligently, but three years taught him to despise the current philosophy of Aristotle. He left Cambridge without a degree, convinced that the methods employed in the sciences and the results reached were alike erroneous, "yielding," as he said, "no true fruit of learning" but merely idle disputation and schoolish ends. There was planted in him the germs of a new conception. He announced that a new method of philosophy must be devised whose aim should be the service and welfare of men and not the pleasure and delight of scholars. He claimed that it mattered little to the fortunes of humanity what abstract notions might be entertained concerning the nature and principle of things. He said "The aim of all science is to endow the condition and life of man with new powers or works, or to extend more widely the limits of the power and greatness of man." He desired that a body of accurately ascertained facts should be amassed from which alone, in his opinion, the processes of Nature could be understood and a solid foundation could be laid on which discovery and invention might proceed apace. By such means, he believed, man would attain to "the knowledge of the courses and secret motions of things and the enlarging of the bounds of human empire, to the effecting of all things possible." He held that "there is much ground for hoping that there are still laid up in the womb of nature many secrets of excellent use, having no affinity or parallelism with anything that is now known, but lying entirely out of the beat of the imagination, have not yet been found out. They too, no doubt, will some time or other,

in the course and revolution of many ages, come to light of themselves, just as the others did; only by the method of which we are now treating can they be speedily and suddenly and simultaneously presented and anticipated." These doctrines of Bacon were revolutionary and they in fact brought about an intellectual revolution. The new or experimental philosophy almost instantly came to the front. It marked the 17th century as the beginning of a new epoch.

Hardly were the seven philosophies securely in place in their daily calendar at Gresham College, when the new upstart challenged the completeness of their sacred number. You all know, of course, that the sacred number came to the Hebrews because of their contemplation of the sun, moon, and the five wandering stars. There was a day of the week for each. Bacon added the earth itself, as the eighth heavenly body. The new philosophy was to be the philosophy of things near to man, and was to give him for the first time, as Bacon said, empire over the earth and over the forces of nature. Bacon's work had a profound influence, both in England and on the continent. Within twenty years of his death a group of vigorous young men in London had taken up the new philosophy. For the first home of the new learning there stood the ever open hospitality of the London tavern. This may seem a strange place of beginning for the new learning, but the place, nevertheless, was natural enough. Private homes, for the most part, were poorly built, uncomfortable and cold. The taverns were warm and cheery and the center of life and hospitality. Only the more pretentious houses of the rich and powerful were fit for social intercourse. Hence it was quite natural that in 1645 we should find a group of diners regularly getting together at the Bullhead Inn in Cheapside, for the purpose of discussing the new or experimental philosophy.

It was this group, called by Boyle the "Invisible College," that in 1680 organized the "Visible College," chartered as the "Royal Society of London for the Improvement of Natural Knowledge." Prominent in this group were Lord Brouncker, an "excellent mathematician," best known as a generous and enthusiastic patron of all branches of learning, rather than as a specialist in any one; Bishop Wilkins, Master of Trinity College, able and active in high office both in the church and in the university, perhaps best known by his eloquent exposition of the Copernican Theory; Robert Boyle, the physicist, the most prominent man of science of his day, second only to Bacon as the creator of the philosophical revolution, and the author of numerous books in the defense of Christianity; John Evelyn, "scholar and true gentleman," whose writings on the garden and on forestry led English country gentlemen to replant and reforest their lands, much to the joy even of the present generation; whose diary, covering about sixty years of the seventeenth century, like the diary of Samuel Pepys, is one of the most

human documents in our tongue; Robert Hooke, inventor of the microscope, brilliant and original, who as Curator of Experiments to the Royal Society displayed an inexhaustible fertility in devising experimental proof of scientific laws; whose discovery of the laws of universal gravitation takes away much of the originality often accredited to Newton; Sir William Petty, the political economist and statistician, who as a side issue was Professor of Anatomy at Oxford and Professor of Music at Gresham College; John Wallis, the prosperous Rector of St. Martin's Parish, Ironmonger Row, London, the author of the best English Grammar and of the most famed text book on Logic of his time, later Savilian Professor of Geometry at Oxford, and second only to Newton as the most important English mathematician of his generation; Christopher Wren, Professor of Astronomy at Gresham College, later Savilian Professor of Astronomy at Oxford, undoubtedly the most widely accomplished man of his time, named by Macaulay "that rare and early prodigy of universal science," complimented by Newton for his mastery of mathematics, original experimenter in anatomy and in the transfusion of blood from one animal to another, originator of a microscopic study of insects, artist and poet, member of Parliament for twenty years, whose side lines were a complete plan for the rebuilding of London after the great fire of 1666, the construction of the military defenses of the city, the architecture of halls and towers at Oxford and Cambridge, and the building of St. Paul's Cathedral.

This group, together with about an equal number of less known but equally enthusiastic associates, nearly all under thirty-five years of age, confirmed one of the greatest events in British history, when on July 15, 1662, they received the charter of the Royal Society from the King. On that foundation has been built the great structure of British science. The men who constituted these first groups of organized science were not long-faced specialists or academicians in the continental sense; they were convivial Englishmen and men taken from all walks of life. This type of membership was maintained for many generations. The membership lists for the first century of its history include many prominent members of the peerage, numerous members of Parliament, amiable and versatile politicians, a notable band of medical men, artists, critics, civil servants, and pamphleteers. There were bishops, like Samuel Squire, and explorers and travelers like Captain Middleton (an adventurer of Hudson Bay Company) and antiquarians like Martin Folkes, and all-round good fellows like Daniel Wray and Jeremiah Dyson, both of whom have been accused of writing the Junius Letters.

But a strange destiny awaited Gresham College. In 1645 Samuel Foster was professor of astronomy at Gresham College and lectured Wednesday at 2 o'clock. It was the custom of the group of new philosophers, led by Robert Boyle, to attend Foster's lecture, and later to

repair to Bullhead Tavern or to the apartments of Dr. Goddard for meat and drink and for discourse and experiment. Hence the way was led to regular weekly meetings with weekly contributions in money to meet the cost of experiments. Thus Gresham College, with its seven water-tight compartments for the seven philosophies, was itself destined to become an instrument for breaking down the sanctity of the sacred number. Built by Gresham for the perpetuation of the old philosophies, its greatest renown in the world is that in the first fifty years of its life it became the home of the new philosophy. It was not only the cradle of the Royal Society, but its three fine halls were the meeting place of the society for nearly all of the first half century of its history. Its galleries housed the libraries and the curiosities, and supplied the permanent offices for the secretaries and officials of the new society.

In the first century of its existence, the meetings of the Royal Society were largely given up to experimentation. Thus Gresham College shared with certain of the London inns the honor of serving as the original English laboratory for experimental learning. The early records of the Society give an interesting picture of the intense eagerness and enthusiasm of the philosophers in the new calling. No distinction was made between pure science and applied science. The following minutes extracted from the record for one of the earliest meetings, that of September 10, 1662, may cause a smile, but there was more good for the future of society bound up in these primitive efforts than in volumes and volumes of disputations on theses of the schoolmen:

"It was order'd, at the next meeting Experiments should bee made with wires of severall matters of ye same size, silver, copper, iron, etc., to see what weight will breake them; the curatour is Mr. Croone.

"Dr. Goddard made an experiment concerning the force that presseth the aire into lesse dimensions; and it was found, that twelve ounces did contract $1/24$ part of Aire. The quantity of Aire is wanting.

"My Lord Brouncker was desired to send his Glasse to Dr. Goddard, to make further experiments about the force of pressing the aire into less dimensions.

"Dr. Wren was put in mind to prosecute Mr. Rook's observations concerning the motions of the Satellites of Jupiter.

"Dr. Charleton read an Essay of his, concerning the velocity of sounds, direct and reflexe, and was desired to prosecute this matter; and to bring his discourse again next day to bee enter'd.

"Dr. Goddard made the Experiment to show how much aire a man's lungs may hold, by sucking up water into a separating glasse after the lungs have been well emptied of Aire. Severall persons of the Society trying it, some sucked up in one suction about three

pintes of water, one six, another eight pintes and three quarters, etc. Here was observed the variety of whistles or tones, which ye water made at the severall hights, in falling out of the glasse again.

"Mr. Evelyn's Experiment was brought in of animal engrafting, and in particular of making cock spurs grow on a cock's head."

I have already stated that each lecture at Gresham College was a double number, delivered in the morning in Latin and later in the day in English. Likewise each meeting of the Royal Society consisted of two events. The most enthusiastic and convivial portion of the membership constituted a dinner group, which met at a tavern once a week to eat and drink, to discourse, and to experiment for about three hours, later to join the fellows of the Royal Society in regular meeting for an additional three or four hours of the New Philosophy. As nearly as I can make out, these enthusiasts put in at least a seven hour day, which certainly speaks volumes for the drawing power of the new learning. The meeting day varied from Wednesday to Thursday and back again, finally settling down permanently in 1710 to Thursday. The union of worldly-minded men and of scientifically-minded men in the prosecution of the new philosophy was a peculiarly English institution. It was facilitated by the remoteness of the English universities from London and by their special college type of organization, which readily permitted the New Philosophy to grow up largely independent of Oxford and Cambridge. On the continent the new learning was able rather promptly to get at least one foot in the universities. Professor Lorenz recently told me about an interesting experience at the University of Leyden. About 1710 the Professor of Natural Philosophy who had been presenting the subject by the old book-method of Aristotle was succeeded by a new professor who evidently had novel ideas about science. He not only performed experiments before his hearers, but he filled up some of the rooms with all sorts of brass and glass affairs, he cut holes in the shutters and bored holes and drove nails in the floors and ceilings and was guilty of many other irregular acts. The janitor or caretaker of the building put in a protest and demanded that his pay be increased if he were expected to care for a building in which so much extra work was put upon him. The janitor probably secretly concluded that it was no part of his contract to serve as the keeper of a lunatic. The archives of the university show that the janitor's demand was met by the authorities. While the revolution in method was very sudden, Professor Lorenz told me that the transition in manner was quite gradual. The professor still continued to adorn himself in impressive professional garments, just as if he were teaching Latin or Greek. Experimental demonstrations performed by a professor in conventional professorial dress must have made an extraordinary picture.

The interesting partnership between English men-of-the-world and English scholars in promoting the New Philosophy is certainly emphasized when we join together such names as Samuel Pepys and Isaac Newton, each of whom served as president of the Royal Society within an interval of twenty years. Newton became a fellow of the Royal Society in 1672 and president of the society thirty years later. Samuel Pepys became a fellow in 1664 and president in 1684. Newton's name, moreover, is immortalized with Pepys in another and very interesting manner. The Royal Society not only issued printed transactions from time to time, but it also undertook to print, at its own cost, meritorious scientific books and treatises. It thus came about in 1687 that "*Philosophiae Naturalis Principia Mathematica*," was brought out by the Royal Society. On the title page we read "I. Newton, he wrote it," and below this, "Samuel Pepys, President Royal Society, he printed it." This was a remarkable linking of names. Newton, we all know, led a simple life, quite devoid even of the convivial pleasures enjoyed by nearly all of his associates. Newton was a man of temperate and abstemious habits, and Samuel Pepys a very extreme example of the animalism of the seventeenth century. Newton, nevertheless, was not without personal faults. The publication of the *Principia* was held up by Halley and Wren for the Royal Society for nearly three years because Newton would not give credit to Robert Hooke for his prior discovery of the law of universal gravitation. Newton was finally forced to give in and acknowledge the credit, although he did it in none too gracious a manner.

Of the men that led British progress in science in the eighteenth century, I shall only detain you with mention of a few. One of the greatest of these was Henry Cavendish, who for fifty-two years rarely missed a meeting of the Royal Society. After Cavendish came into his inheritance, he was the wealthiest man in England, if not in the world. His house at Clapham, just in the outskirts of London, was undoubtedly the best laboratory in England. He had everything that money could buy in the way of electrical machines, air pumps, chemicals, et cetera. His scientific library in Soho Square in the city was freely open to a host of young scholars, who drew books from the rich collection in the same manner pursued by Cavendish himself. Then there was Captain James Cook, a sailor, but nevertheless a truly great scientist, commanded by an indomitable spirit of adventure, and possessed of a good sense and of a magnificent personality that made him one of the great figures in British history. Perhaps it is not out of place here to mention our own Benjamin Franklin, who received the Copley Medal of the Royal Society in 1753. He was elected a fellow of the Royal Society in 1756 in a remarkable manner. Admission to the Royal Society has always been by request of an applicant vouched for by three members; the only

exception to this in its long history was in the case of Benjamin Franklin, who was voted in by unanimous vote without any knowledge on his part of the proposed honor. During the fifteen years that Franklin spent in England he was a constant attendant at the Royal Society meetings and lived on most cordial terms of intimacy with its fellows. You all know enough about Franklin to understand what I mean when I say that he was a typical example of that combination of man-of-the-world and man-of-science that was so characteristic of the British leaders in the New Philosophy.

The eighteenth century was a period of gross animalism, but it was also a period of great enthusiasm, of great physical and spiritual courage and a time of great adventure in all fields of learning. There were many patrons of science and the patrons were men of virility and of tireless activity. Sir Joseph Banks, for example, spent a life time of constant activity in promoting natural knowledge, and devoted enormous sums from his private fortune in furthering all branches of science. He fitted out the good ship *Endeavor*, as a floating laboratory, paid for the services of Solander, the favorite pupil of Linnaeus, and enriched the staff with artists, draftsmen, and scientific helpers of all sorts, for its three-year voyage of discovery in Cook's memorable voyage. Joseph Banks holds two unique records. He was for fifty-four years a fellow of the Royal Society and for forty-two years its president. For many years he had to be wheeled in an invalid's chair to the weekly meetings. He had not only furnished funds for Captain Cook's voyages, as already stated, but he himself spent three years with Cook in the Pacific. He later made a voyage of discovery to Iceland and the Arctic Isles. He introduced to the Royal Society Dining Club a remarkable succession of guests. He had Captain Cook at the club within two weeks of his return from his great voyage. He had Captain John Ross and Lieutenant Perry as guests immediately after their return from their polar voyages. Herschel he brought around one week after his discovery of the planet Uranus. Now this sort of thing is what makes science worth while. Virility, abundance, or even a superabundance of enthusiasm, insatiable curiosity, must always be the breath of science. Something has been lost if science becomes so minute, so subdivided, so cellular as to make no direct appeal to men of the world like Joseph Banks. The modern world has made a change—it must supply a substitute, for science can not afford to lose the vitality that comes from worldly-minded men. It is possible, therefore, that it was really no loss to the New Learning that in England it found no hospitality at the universities and received little support from the government. In no other country did the "experimental philosophy" have a similar history. In England the New Learning was born in a tavern; it knew no other home for several years. Science was a city waif—it was a stranger at the

universities and remained so until only two or three generations ago. The scientists, in large part, were amateurs, supported from private fortunes or earning their way in other callings. Newton hardly had enough to live on at Cambridge; he had to pay for all of his instruments, for his chemicals, and his materials out of his own pocket. The fellows of the Royal Society taxed themselves by very large fees and dues to pay the cost of their own publications and the expense of their secretaries, their libraries, and their museums. In the last half of the eighteenth century there was probably more good science in the home of Henry Cavendish than in all the colleges of England, and the private libraries of Cavendish and of Joseph Banks, located in their town houses near Soho Square, far exceeded all other British resources of the day. Only since the World War has the British government offered liberal aid to the New Philosophy. Science in England has not been a spoiled child. It has fought its way through and made its own career. It is not surprising, therefore, that it has had a virility and a character of its own. There have been compensations in its career of self-support.

I have now given a certain picture of the rise of the new philosophy. Although I have spoken particularly of the intellectual revolution in England, the view has not been a partial one as far as mere scientific advance is concerned. But during all this time, Britannia had been ruling the world, while other countries, for the most part, had stayed at home. There has been a difference in results, and there has also been a difference in the use of intellectual materials. England did not lose out in the power that came from the new learning, although England's great universities only slowly gave recognition to it. In the main they have devoted their efforts to training men in human and spiritual things, primarily for leadership in public life. The first job of the new learning has been the conquest of the physical world. Its spiritual contributions, although real, have not been so obvious. Three centuries ago man still lived in awe of nature, just as he had been living from the day of his creation. He had been limited and ruled by nature as a slave is limited and ruled—everywhere he stood in dread of nature and without mastery over her. Fate represented the great tragic element in life, just as it did in the Greek drama. The New Philosophy has brought about a reversal in the relation of man and nature. For the first time in human history, the question is no longer how nature can be prevented from overcoming man; it now is to what lengths may man go in subduing nature. He believes he has won the mastery—not complete, it is true, but with the balance of control in his favor. This consciousness of power has changed human outlook. Man now doubts the necessity of many of the hardships of life formerly regarded as inevitable. It is not enough that the fear of the Black Death, or dread of lightning, or of the perils of the sea, should vanish. It is now believed that many of the

common hardships of daily life, the cruel pressure of economic forces, the withholding of freedom and of equal opportunity, are unnecessary and intolerable. Man now knows that disease may be cured, that life may be prolonged, that much human suffering may be prevented. The control over natural processes given by science, the control over human happiness given us by modern medicine, he is now convinced must be matched by a control even over destiny itself. Man has not yet reached this mastery, but he has reached the belief in its possibility. He is no longer willing to bow down to fate or to resign himself to all of the tragic elements in life, as did the ancients; rather he is demanding deliverance through the researches of economic science and through the understanding of history. The World War has taught him that the great power over the processes of nature may be used quite as well for his destruction as for his advancement. The New Philosophy that produces a thousand tons of poison gas in a day and tens of thousands of machines and aeroplanes to discharge it, is not a philosophy that of itself will lead men to better things. The New Philosophy suddenly finds itself challenged, and doubted, and questioned as never before in the three hundred years of its history. A prayer goes up for a new principle and for a new pilot to serve as the guide of life. Perhaps the world must await a new Francis Bacon with a new message of deliverance. Perhaps only an old-fashioned philosophy and old-fashioned standards are needed. But in any case a fundamental regeneration of spiritual forces must be set in action. The new philosophy of Bacon is fast becoming an old philosophy. The scientific revolution has advanced man further in his control over nature than in his control over himself. When millions of lives may be obliterated by a chemical formula, there is required a subjugation of human selfishness, such as never before was demanded. But poison gases are not the only compounds that threaten society. Modern business methods and the modern system of industrial development, contain poisons and explosives, more destructive, perhaps, than material reagents. If we can establish no control over the selfishness of men, these powers must tend to become more threatening and more ruthless until civilization itself will be in danger. An essential truth of the New Philosophy must be this: That the law of the jungle, that the law of the tooth and claw, must be replaced for the human species by a higher law; that humanity can only realize its ideals through the reign of unselfishness. This, of course, is nothing but the fundamental altruism of Christianity, one of the oldest of truths but the hardest to believe. The manner of establishing this axiom in human affairs is still a great task of the future. The power-creating sciences have outrun the power-controlling sciences. The danger lies in the difficulty of stimulating progress in the power-controlling sciences. A thoughtful economist has said that "There is danger that the Natural

Sciences must always outstrip the Social Sciences. In the first place, the Natural Sciences can use the experimental method, and the Social Sciences have hardly yet devised an adequate substitute. Then again in the Natural Sciences, the inventor and original thinker is rewarded and honored, but in the Social Sciences the inventive mind is more or less ostracised and new ideas that touch upon the key problems of modern life, namely, the control of human and economic activities, are at once branded as radical and dangerous." For this reason I believe that the universities in America may have little to do with the development of the philosophy of the coming century. They do not seem to be generating grounds for courage and virility. I expect, therefore, a reversal in the position of university influence. In England the spiritual control may grow and thrive from the universities. In America I expect the hope of the New Philosophy to lie, not with university faculties, but with men of the world; with leaders in the industries; with engineers and business men and lawyers and men close to affairs. We must look for a new Christopher Wren, who can look upon life as a whole; for a new James Cook, who is unafraid to put ahead in the blackest sea; for a new Henry Cavendish, who will devote his fortune and his life to the advancement of ideas precious to his fellow men. The New Philosophy must be the philosophy of the control of man's power over himself. The issue is for the youth of this and the next generation. I am glad that the outcome seems to be in doubt; for this doubt is needed to tempt the conscience of the world's youth, and to challenge them to prove their worth.

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